http://caprad.nlectc.du.edu/caprad/PublicSite.RegEntry.

- The application **must** include:
  - 3.1.3..1. The current FCC Form (currently the 601),
  - 3.1.3..2. A short description of the proposed system,
  - 3.1.3..3. A justification for the additional spectrum,
  - 3.1.3..4. An coverage prediction map using the current version of TIA/EIA TSB 88 guidelines,
  - 3.1.3..5. Maps showing all interference predicted in the proposed system,
  - 3.1.3..6. Documents indicating agency-funding commitments sufficient to fund the development of the proposed system(s),
  - 3.1.3..7. A list of 'give-back' channels, if applicable
  - 3.1.3..8. The Region 51 supplemental form.

3.1.4. Exceptions in accepting applications from qualified applicants will be made by the Region if applicants have demonstrated a need for 700 MHz channels and cannot access the CAPRAD database.

3.1.5. **Application Distribution / Coordination.** The Chair will distribute the application request to all other necessary agencies with allotments in the Plan for review and approval.

- Absent a protest, the Regional Planning Committee will approve the application and (if applicable), submit it, through the CAPRAD database, to the applicant's preferred FCC-certified frequency coordinator for processing. This process meets the requirements of FCC Rule 90.176 (c).
- The CAPRAD database will reflect the approved application and place the channels for the proposed system in "pre-license" status.

3.1.6. **Give Up or Give Back Spectrum.** When applying for new 700 MHz channels, the Regional Planning Committee encourages applicants to relinquish some amount of currently licensed spectrum ("give back channels") and make that spectrum again available for use within the Region.

- Agencies with existing licensed 800 MHz systems that are requesting 700 MHz channels for system expansion will not fall under this requirement.

- An agency may retain channels that are used for paging, telemetry, microwave or other functions that the 700 MHz spectrum does not meet the agency's need.
- When an applicant submits a request for 700 MHz spectrum, a "Give Back Plan" should accompany the application (if applicable). This Plan should show what frequencies would be vacated, a time line for the transition, and what channels are being retained. If an existing channel is being retained for interoperability purposes, please identify that channel in the "Give Back Plan".
- Frequency "give back" requirements shall hold true for regional systems where system constituents maintain discrete licenses for their own internal operations. In this case, constituent political subdivisions or agencies are required to participate in the "give back" plan. Should a political subdivision or agency act as host of a regional system, both the host agency and the constituent agencies should participate in the "give back" plan.
- A licensed entity may not "farm down" frequencies to other services within their political structure unless justified to the RPC. If justified, the action must then approved by the RPC.
- A licensed entity may not "give" or "assign" frequencies to another entity; the frequencies must be returned to the "pool" and applied for through the normal application process.
- Frequencies used for non-voice critical infrastructure support functions [Supervisory Control and Data Acquisition (SCADA) systems] as well as frequencies that are used for interoperability with other regional, state or national agencies that rely on one certain frequency band for emergency operations. Frequencies used by an applicant for such purposes, as well as the specific use and a network/ system diagram, must be specified in supportive documentation supplied with the application to enable the Regional Planning Committee to consider any possible exemption.
- In cases of hardship or failure to implement, the Regional Planning Committee will consider, on a case-by-case basis, extensions not to exceed five years from date of license issuance, of the "give back" timetable. The dispute arbitration process in Section 3.6 of this document shall apply should there be protest.

3.1.7. **Allocation Disputes**.
An agency may protest a proposed system within 30 calendar days of the original distribution.

- Protests will only be considered **IF**:

3.1.7..1. The frequency allocation does not conform to Plan criteria
OR,

3.1.7..2. The objecting agency can show harmful interference is likely based on the information submitted by the agency requesting the new allocation
OR,

3.1.7..3. The Chairperson can show harmful interference is likely based on the information submitted by the agency requesting the new allocation.

- If an agency with pre-licensed/Region approved co-channel or adjacent channel allocations objects to a proposed allocation due to concerns about potential interference, the objecting agency may request field tests be done to confirm or refute interference potential. The completion of these field tests and the results will be required for Regional application approval. Coverage area service/interference contours of the proposed system(s) should meet values designated in Section 7.1 of this document.
- Any costs associated with field tests or any other requirements to obtain Region 51 Plan approval are the responsibility of the agency submitting application to Region 51.
- The parties involved must resolve the allocation dispute and notify the Region Chair within 30 calendar days. If the parties involved cannot resolve the allocation dispute within that timeframe, then a special full Committee meeting will be scheduled to consider and vote on the protest.
- ***The burden of proof will be on the protesting party***. The protesting party may be liable for any costs associated with the protest if the complaint is unfounded.
- If approved, the application will be submitted through the CAPRAD database to the applicant's chosen FCC-certified frequency coordinator for processing.

3.1.8. **Lower Power "Campus Eligible" Digital General Use Channels.** With the implementation of 700 MHz public safety spectrum throughout Region 51, there may be opportunities for increased channel reuse when developing radio systems for "campus" type operations.

- Examples of those who may capitalize on this opportunity include hospitals, stadiums, parks or places of public gathering, public universities, transit systems, correctional facilities and mental health facilities. While these channels have been designated in county pool allotments with proper designation, they do not enjoy the benefits of countywide channels in that they are not cleared for

usage over a wide area. In many instances, facilities require a smaller or more specific geographical coverage area than assumed in the initial channel packing plan and may be able to be reused more efficiently.

- These "campus" type systems also, in many cases, require in-building or confined space/ tunnel radio coverage or communications along a linear pathway, such as a maintenance or right of way. These channels may also be used for "vehicular repeater" (MO3) operation.
- Public safety channels can be allotted to this type operation in a Region and can lead to effective system development, along with increased spectral efficiency, if power levels and Area of Protection (AOP) of the area are taken into account in system planning. These parameters must be established appropriate to the area of coverage.
- These channels are NOT eligible to be utilized throughout the county they are licensed in but to a specific geographic area, unless otherwise licensed. The Low Power channel will be licensed on an as need or first come, first serve basis.
- The following criteria must be adhered to when requesting channels from Region 51 for operations of this type:

  3.1.8..1. The 40dBu service contour of the proposed system must not exceed an area more than 5 miles or 8 Km from the proposed service area.

  3.1.8..2. When this 5-mile distance extends to an adjacent Region, the applicant must obtain concurrence from the adjacent Region. Reduced external antenna heights, along with reduced ERP, directional antenna, distributed antenna systems, down tilt, radiating "leaky coax," are all tools that should be utilized in the development of these type systems.

  3.1.8..3. Region 51 will ensure the development of these types of systems will in no way interfere with co-channel or adjacent channel users within Region 51 or Region 51's adjacent Regions.

- The Chairperson, or a majority of the members of the Region, has the authority to request and require engineering studies from the applicant that indicate no harmful interference will be introduced to any co-channel or adjacent channel existing user prior to application approval.

3.1.8..1. For co-channel assignments, the 50dBu service contour of the proposed stations will be allowed to extend beyond the defined service area for a distance no greater than 2 miles. An adjacent/alternate channel shall be allowed to have its 60 dB (50, 50) contour touch, but not overlap the 40dB service (50, 50) contour of an adjacent/alternate system being protected. Evaluations should be made in both directions to ensure compliance.

3.1.8..2. The approval of systems utilizing county allotment channels labeled "Campus", are subject to approval of the Regional planning committee. They are the final authority on parameters associated with "campus" type operations.

- When Region 51 receives an application for low power fixed use and the proposed service contour encroaches onto an adjacent Region prior to the channel allotted to the Region being implemented in a specific system, the application must be modified so the service contour does not encroach into the adjacent Region OR the applicant must supply the Region 51 700 MHz Regional Planning Committee with written concurrence from the adjacent Region permitting the original design.

3.2. Procedure for Frequency Coordination

The Region 51 Planning Committee re-worked the original CAPRAD pre-sort to match the needs of Region 51 (see Section 16). Region 51 will participate in the CAPRAD database and keep the Regional Plan and current frequency allotment/allocation information on this database.

3.2.1. **Initial Application.**
Applicants must submit the initial FCC application to the Regional Planning Committee so the committee can ensure the application complies with all elements of the regional plan. If approved, the Regional Planning Committee will make sufficient notification to the applicant's selected FCC certified Frequency Coordinators through the CAPRAD database. This process meets the requirements of Rule 90.176 (c).

3.2.2. **Authority to Change CAPRAD**
The Region 51 Regional Planning Committee has the ability and authority to change the original CAPRAD frequency allotments.

- In order to keep the most effective frequency allotments within Region 51, a review of the allotments may be made at one of the scheduled meetings by the full committee and recommended changes to the Plan will be voted on. The majority of members in

attendance at a meeting of the full Regional Planning Committee must approve any changes to the Regional allotments.

- If Plan modifications are approved, the Chairperson will, if necessary, obtain adjacent Region approval and file a Plan amendment indicating the approved changes with the Federal Communications Commission. The procedure for Orphaned Channels is Section 7.3 of this Plan.

3.2.3. **Return of Channels**
If at any time a system is allocated channels within Region 51 and the system cannot be developed within the agreed upon guidelines (slow growth), the channels will be returned to the county pool allotments they originated from and again be available to other agencies in the Region.

3.3. Allocation of Narrowband "General Use" Spectrum.

All agencies requesting spectrum during the initial filing window will be allocated channels if the Region 51 Plan requirements are met.

The Region 51 Technical & Implementation Subcommittee recommends that allotments be made on the basis of one 12.5 KHz channel for every one (1) voice channel requests and one 12.5 KHz channel for each narrowband data channel request. This recommendation is approved by the full Committee and is part of this Plan.

In order to promote spectrum efficiency, Region 51 will encourage that systems allocated 25 KHz channel blocks will utilize the entire channel and not "orphan" any portions of a system designated channel.

Section 7.3 addresses Orphaned Channels.

3.4. Low Power Analog Eligible Channels.

The FCC in the 700 MHz band plan set aside channels 1 - 8 paired with 961 – 968 and 949 – 958 paired with 1909 – 1918 for low power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved Regional Planning Committee Regional Plans. Transmitter power must not exceed 2 watts (ERP).

Channels 9 –12 paired with 969 – 972 and 959 – 960 paired with 1919 – 1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP). These channels may operate using analog operation. To facilitate analog modulation, this Plan will allow aggregation of two 6.25 KHz channels for 12.5 KHz bandwidth.

On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) antenna height limit of 6.1 meter (20 feet) AGL (Above Ground Level). Vehicular repeater operation (MO3) is also allowed. However, users are encouraged to

operate in simplex mode with the least practical amount of power to reliably maintain communications whenever possible. This Plan does not limit use to analog only operations and channels are intended for use in a wide variety of applications that may require digital modulation types as well. The use of EIA/ TIA-102, Project 25 Common Air Interface is required when using a digital mode of operation.

In its dialog leading up to CFR §90.531 allocating the twenty-four low power 6.25 KHz frequency pairs (of which eighteen fall under RPC jurisdiction1), the Federal Communications Commission (FCC) suggested that there is a potential for multiple low power applications, and absent a compelling showing, a sharing approach be employed rather than making exclusive assignments for each specific application as low power operations can co-exist [in relatively close proximity] on the same frequencies with minimal potential for interference due to the 2 watt power restriction.

Whereas advantages exist in not making assignments, the reverse is also true. If, for example, firefighters operate on a specific frequency or set of frequencies in one area, there is some logic in replicating that template throughout the Region for firefighter equipment. If there are no assignments, such a replication is unlikely.

In seeking the middle ground with positive attributes showing up both for assignments and no assignments, we recommend the following regarding assignments associated with the eighteen (18) low power channels for which the Regional Planning Committee has responsibility:

- Generic - Channel #'s 1-4 and 949-952 are set aside as generic base channels for use by public safety agencies operating within Region 51, and the complementary mobile channels # 961-964 and 1909-1912 are set aside as generic mobile channels also for use by public safety agencies likewise operating within Region 51.
- Fire/ EMS/ Consequence Management - Channel #'s 5-8 are designated as Fire Protection/ Emergency Medical and Consequence Management base channels for licensing and exclusive use by the Fire/Emergency Medical disciplines, and the complementary mobile channel #'s 965-968 are set aside as Fire/Emergency Medical and Consequence Management mobile channels also for licensing and exclusive use by the Fire/Emergency Medical disciplines.
- Law Enforcement/ Crisis Management - Channel #'s 953-956 are set aside as Law Enforcement/Crisis Management base channels for licensing and exclusive use by the Law Enforcement discipline, and the complementary mobile channel #'s 1913-1916 are set aside as Law Enforcement/Crisis Management mobile channels also for licensing and exclusive use by the Law Enforcement discipline.
- Multidisciplinary Joint Public Safety Operations - Channel #'s 957-958 are set aside as Multidisciplinary Joint Public Safety Operations base channels for licensing and the complementary mobile channel #'s 1917-1918 are also set

aside as Multidisciplinary Joint Public Safety Operations Channels for use by political subdivisions and public safety agencies operating under a unified command at a common incident for the express mission of safety of life, property or environment.

- Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on scene use among all agencies involved, particularly when the use of repeater modes is possible at or in proximity to a common incident. Users should license multiple channels and be prepared to operate on alternate channels at any given operational area. Again, Region 51 Regional Planning Committee will require
(see paragraphs 35 through 51 in FCC's Third Memorandum Opinion and Order for WT Docket No. 96-86 adopted September 18, 2000) all 700 MHz users to have the capability to access ALL of the NCC approved interoperability channels in both duplex and simplex modes.

Following is a table of the low power channels.

Channel #	Frequency	Use	Channel #	Frequency
1	769.003125	RPC Admin	961	799.003125
2	769.009375	RPC Admin	962	799.009375
3	769.015625	RPC Admin	963	799.015625
4	769.021875	RPC Admin	964	799.021875
5	769.028125	RPC Admin	965	799.028125
6	769.034375	RPC Admin	966	799.034375
7	769.040625	RPC Admin	967	799.040625
8	769.046875	Itinerant	968	799.046875
9	769.053125	Itinerant	969	799.053125
10	769.059375	Itinerant	970	799.059375
11	769.065625	Itinerant	971	799.065625
12	769.071875	Itinerant	972	799.071875
949	774.928125	RPC Admin	1909	804.928125
950	774.934375	RPC Admin	1910	804.934375
951	774.940625	RPC Admin	1911	804.940625
952	774.946875	RPC Admin	1912	804.946875
953	774.953125	RPC Admin	1913	804.953125
954	774.959375	RPC Admin	1914	804.959375
955	774.965625	RPC Admin	1915	804.965625
956	774.971875	RPC Admin	1916	804.971875
957	774.978125	RPC Admin	1917	804.978125
958	774.984375	RPC Admin	1918	804.984375
959	774.990625	Itinerant	1919	804.990625
960	774.996875	Itinerant	1920	804.996875

3.5. Dispute Resolution – Intra-Regional

In the event an agency disputes the implementation of this Plan or the Federal Communications Committee approval of this Plan or parts of this Plan, the agency must notify the Chair of the dispute in writing.

3.5.1. **Protest over New Spectrum.**
This section does not apply to "protests over new spectrum" allocations. Refer to the "Procedure for Requesting Spectrum Allotments.....Allocation Disputes"

3.5.2. **Informal Resolution**.
The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters.

3.5.3. **Dispute Resolution Committee**.
If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint a Dispute Resolution Committee consisting of two members from governmental agencies and at least five members from different agencies in Region 51. That committee will select a Chair to head the committee and a secretary to document the proceedings.

3.5.4. **Operation of Dispute Resolution Committee**.
The Regional Plan Chair (or Vice Chair) will represent the Region in presentations to the Dispute Resolution Committee. The Committee will hear input from the disputing agency, any effected agencies and the Region Chair. The Committee will then meet in executive session to prepare a recommendation to resolve the dispute.

3.5.5. **NPSTC Review.**
Should this recommendation not be acceptable to the disputing agency/agencies, the dispute and all written documentation from the dispute will be forwarded to the National Regional Planning Oversight Committee, a subcommittee of the National Public Safety Telecommunications Committee (NPSTC) for review. As a last resort, the dispute will be forwarded to the Federal Communications Commission for final resolution.

4. Priority Matrix

4.1. Allocation Requests Conflict

In the event that spectrum allocation requests conflict and cannot all be accommodated, the following matrix will be used to determine priority for allotment. This matrix will only be used if two requests are received in the same time frame for the same number of channels. Otherwise, the first come first served procedure of Section 3.1 will be used.

4.1.1. Service (Maximum score 100 points)
Priority is given to users fundamentally involved with the protection of Life and Property – Police, Fire, EMS, Emergency Management, combined/multi -jurisdictional systems, etc. Each type of service has predetermined point value as follows:

- Law Enforcement – 100 points
- Fire – 100 points
- EMS – 100 points
- EM – 80 points
- Combined/Multi-Jurisdictional – 100 points
- Local Government – 50 points: Utility – 15 points; Maintenance – 15 points; Administration – 10 points; Other local government use – 10 points

An applicant for a system for multiple services will be scored on the basis of the sum of the maximum points for each service weighted by the percentage that each service represents of the total system. For example, a system application for use by 50% law enforcement, 25% fire, 10% EMS, and 15% local government (5% utility operations and 5% maintenance) would be scored as follows: law enforcement – 100 point maximum * 50% system use = 50 points; fire – 100 maximum * 25% use = 25 points; EMS – 100 point maximum * 10% use = 10 points; Local Government (maintenance operations) - 15 points * 15% use = 2.25 points; and Local Government (other use) – 5 points * 15% use = .75 points. Total points awarded for this system is the sum of 50+25+10+2.25+.75 for a total of 88 points.

4.1.2. Inter-system & Intra-system interoperability (Maximum score 100 points)
How well the proposed system will be able to communicate with other levels of government and services during an emergency on "regular" channels, not the I/O channels. Interoperability must exist among many agencies to successfully accomplish the highest level of service delivery to the public during a major incident, accident, natural disaster or terrorist

attack. Applicants requesting 700 MHz spectrum shall inform the Region of how and with whom they have been achieving interoperability in their present system. The applicant shall stipulate how they will accomplish interoperability in their proposed system (gateway, switch, cross-band repeater, console cross patch, software defined radio, or other means) for each of the priorities listed below:

- Disaster and extreme emergency operation for mutual aid and interagency communications – 35 points.
- Emergency or urgent operation involving imminent danger to life or property – 30 points.
- Special event control, generally of a preplanned nature (including task force operations) – 20 points.
- Single agency secondary communications – 10 points.
- Routine day-to-day non-emergency operations – 5 points.

4.1.3. Loading (Maximum score 100 points)
Is the system part of a cooperative, multi-organization system? Is the application an expansion of an existing 800 MHz system? Have all NPSPAC channels been assigned (where technically feasible)? A showing of maximum efficiency or a demonstration of the system's mobile usage pattern could be required in additional to loading information. Based on population, number of units, what are the talk groups?

4.1.4. Spectrum Efficient Technology (Maximum score 100 points)
How spectrally efficient is the system's technology? Trunked systems are considered efficient as well as any technological systems feature, which is designed to enhance the efficiency of the system and provide for the efficient use of the spectrum.

4.1.5. Systems Implementation Factors (Maximum score 50 points)

- Applicants should submit some form of proof of financial commitment, accompanied by a RFP (Request for Proposal) outlining the design of the proposed system and detailing the development of the requested channels will be required to be submitted to the Regional Planning Committee prior to approval. If funding has been provided by a line item budget equivalent in a sufficient amount for immediate implementation, a score of 50 points will be awarded.

4.1.6. Geographic Efficient (Maximum Score 50 points)
The ratio of subscriber units to area covered and the channel reuse potential are two subcategories. The higher the ratio (mobiles divided by square miles of coverage) the more efficient the use of the frequencies. Those systems which cover large geographic areas will have a greater

potential for channel reuse and will therefore receive a high score in this subcategory.

4.1.7. Givebacks (Maximum Score 25 points)
Consider the number of channels given back, the extent of availability, and usability of those channels to others.

4.2. More Applicants than Frequencies

If there are more applicants than frequencies available for a given area, the above criteria will be used to grade each application before the committee.

4.3. Process Treated as Dispute

This process, if required, will be treated as a dispute and the procedures outlined in Section 3.6 using the above criteria will be used to allocate the frequencies.

5. Process for Handling Unformed Regions

5.1. Adjacent Regions

There are no unformed adjacent Regions to Region 51 and Letters of Concurrence have been received from all four (4) adjacent Regions (18, 40, 49, and 53).

6. Coordination with Adjacent Regions

6.1. Adjacent Regions

6.1.1. The Regions that are adjacent to or within seventy (70) miles of Region 51 are listed below:

- Region 18 Louisiana

  Regional Chairman
  Louisiana
  William R. Vincent, Sr. Chairman
  Region 18, 700 MHz Public Safety Planning Committee
  Louisiana Public Safety Planning Advisory Committee
  P.O. Box 82236
  Lafayette, Louisiana 70598
  PH: (337) 291-5060
  FAX: (337) 291-5080
  Email: eoc@lafayettegov.net

- Region 40 Texas (Central and Northeast)

  Regional Chairman
  Texas (Central and Northeast)
  J. Daniel Scrivner
  Manager of Communications
  Department of Communications and Information Services
  City of Dallas
  3131 Dawson St.
  Dallas, TX 75226
  P: 214-670-7995
  F: 214-670-7984
  Email: j.scrivner@dallascityhall.com

- Region 49 Texas Central (Austin Area)

  Regional Chairman
  Central Texas (Austin Area)
  Ronald G. Mayworm
  Radio System Engineer
  City of Bryan, Texas
  P.O. Box 1585
  Bryan, TX 77805-1585
  PH: 979-209-5475
  FX: 979-209-5489
  Email: rmayworm@bryantx.gov

- Region 53 Texas Southern (San Antonio Area)

Regional Chairman
Southern Texas
Richard Morales, Jr.
Manager, Radio Systems (ITSD)
City of San Antonio
3440 East Houston
San Antonio, TX 78219
PH: 210-207-7022
FX:
Email: rmorales@sanantonio.gov

6.2. Notification

Region 51 has coordinated channel allocations and received concurrence with all its bordering Regions by providing copies of the Region 51 Plan (including channel allotments) to each adjacent Region using the CAPRAD database and by mailing hard copies of the Plan to the adjacent Region's Chairperson or Convener.

6.3. Copies of Plan

In seeking Regional concurrence, the Chairperson has given copies of this Plan to the Chairperson of Region 18, 40, 49 and 53. The Region 51 Plan was also available for viewing by all Regions via the NLECTC CAPRAD 700 MHz database and the Region 51 web site, http://www.region51.hctx.net. The CAPRAD pre-coordination database shows those channels available that will not interfere with Region 51 allotments or systems.

6.4. Use of CAPRAD

The CAPRAD database and its associated packing Plan, as modified by the Region 51 RPC, provide minimum channel allotments for all of Region 51's bordering Regions. This method was recommended by the NCC Implementation Subcommittee as a way to assure that adjacent Regions, which did not enter the Regional Planning process immediately, would not find all frequencies assigned in their borders. Therefore, adjacent Regions 18, 40, 49 and 53 should all be able to satisfy voice and narrowband data requests along their border areas with Region 51.

6.5. Resolve Intra-Regional Requests

If an adjacent Region has difficulties satisfying intra-regional requests due to channel allocation within Region 51, this committee pledges to work with that adjacent Region to resolve any issues that might hinder interoperability or reduce any benefit to public

safety communications.

7. System Design/ Efficiency Requirements

7.1. Interference Protection

The frequency allotment list will be based on an assumption that the systems will be engineered on an interference-limited basis, not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus an area three to five miles beyond.

7.1.1. Systems should be designed for minimum signal strength of 40 dBu in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88-A (or latest version) will be used to determine harmful interference assuming 40 dBu, or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise-limited coverage.

7.1.2. To maximize spectrum utilization, receivers of the highest quality must be used in systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems utilize low quality receivers.

7.2. Spectrum Efficiency Standards

Initial allotments will be made on the basis of 12.5 KHz channels. To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality must be used in all systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This Plan will not protect agencies from interference if their systems are under-constructed (i.e.; areas with the established service area having minimum signal strength below 40 dBu), or the systems utilize low quality receivers. The applicant's implementation of best engineering practices will be encouraged by the Regional Planning Committee at all times.

7.2.1. It is the eventual goal of the FCC and the public safety community for radio equipment to meet the requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 51, the applicants should acknowledge the deadline for converting all equipment to 6.25 KHz or 6.25 KHz equivalent technology is 12/31/2016. For narrowband mobile data requests, one mobile data channel will consist of two (2) 6.25 KHz channels/one (1) 12.5 KHz channel. Narrowband 6.25 KHz channels can be aggregated for data use to a maximum bandwidth of 12.5 KHz. As 6.25 KHz migration evolves, an agency that creates any "orphaned" 6.25 KHz channels should realize that these channels could

be allocated to near by agencies requesting channels to maintain consistent grouping and utilization of 12.5 KHz blocks within the Region.

7.2.2. Region 51 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. Loading criteria can also be achieved in multi-agency systems that will allow greater throughput for all agencies involved than that which could be achieved individually.

7.3. Orphaned Channels

The narrowband pool allotments with Region 51 will have a channel bandwidth of 12.5 KHz. These 12.5 KHz allotments have been characterized as "Technology Neutral" and flexible enough to accommodate multiple technologies utilizing multiple bandwidths. If agencies choose a technology that requires less than 12.5 KHz channel bandwidth for their system, there is the potential for residual, "orphaned channels" of 6.25 KHz bandwidth immediately adjacent to the assigned channel within a given county area (see Section 17).

7.3.1. An orphan channel may (if possible) be used at another location within the county area where it was originally approved, if it meets co- and adjacent channel interference criteria. Region 51 will utilize "county areas" as guidelines for channel implementation within the area of Region 51. The definition of "county area" in this Plan is the geographical/political boundaries of a given county, plus a distance of up to 10 miles outside of the county or jurisdictional boundary.

7.3.2. If the channel, or a portion of a channel, is being moved into a "county area" that is within 30 miles of an adjacent Region, Region 51 will receive concurrence from the affected Region. By extending the "county area" by a designated distance, it is anticipated this will increase the possibility that orphaned channel remainders will still be able to be utilized within the "county area", and reduce the potential for channel remainders to be forced to lay dormant and used with a county channel allotment. These movements will be documented on the National Law Enforcement & Corrections Technology Center CAPRAD database.

7.3.3. If the "orphaned channel" remainder does not meet co-channel and adjacent channel interference criteria by moving it within the "county area" as listed above, and it is determined by the Region that the "orphaned channel" cannot be utilized in the Region without exceeding the distance described in the "county area" listed above, Region 51 will submit a Plan amendment to the FCC to repack the channel to a location where its potential use will maintain maximum spectral efficiency. This FCC Plan amendment will require affected Region concurrence.

7.3.4. When in the best interest of public safety communications and efficient spectrum use within the Region, the Region 51 Regional Planning Committee shall have the authority to move orphan channel allotments, and/or co-/adjacent-channel allotments affected by the movement of orphan channels, within its "county areas", which are defined above. This is to retain spectrum efficiency and/or minimize co-channel or adjacent channel interference between existing allotments within the Region utilizing disparate bandwidths and technologies. Absent a waiver, applicants may aggregate spectrum (upon RPC approval) up to a maximum bandwidth of 25 KHz.

7.4. System Implementation

Most areas in South Texas Region 51 will be precluded from immediately implementing 700 MHz systems due to protection requirements of existing television stations using this band. These stations may not move until 2009, or after, depending on FCC's rulings of digital TV implementation.

Therefore this plan will not require agencies to implement systems using the 700 MHz spectrum allocated to them until TV station(s) requiring protection relocate to another TV channel. After that date, agencies must release a System RFP within one year and sign a contract with a vendor within one year of releasing the System RFP. Implementations of general use channels shall be governed by FCC rule 90.529 (b) and (c).

If an agency does not implement in the time frames specified, that agency's allocation may be removed from the allocation list. An Agency may file a request with the Regional Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request.

7.5. Channel Loading

It is the goal of Region 51 to encourage effect utilization of each frequency channel irrespective of bandwidth. We recommend the following:

- Each applicant for a trunked system should design their system for a minimum of 100 mobile and portable radios for each 12.5 KHz voice channel that will be placed in service within 5 years of the initial plan approval date.
- Single conventional channels should be designed for a minimum load of 70 radios per 12.5 KHz channel. Mobile, portable, data and control stations will all be considered within this count.

Channel loading will eventually be required to change to 70 units per 6.25 KHz channel, when narrowband technologies are available and when the FCC requires that 6.25 KHz as a single voice channel (vs. 12.5 at this time).

7.5.1. **Expansion of Existing 800 MHz Systems**

Existing 800 MHz systems that will be expanded to include the 700 MHz frequency spectrum will have to meet the requirements of the FCC and both 800 MHZ NPSPAC Region 51 Plan and the Region 51 700 MHz Plan. If the two Region 51 Plans are in conflict, the Plan that gives the applicant the greater flexibility will govern.

8. Interoperability Channels

8.1. Introduction

Interoperability – An essential communications link within public safety and public service wireless communications systems which permits units from two or more different entities to interact with one another and to exchange information according to a prescribed method in order to achieve predictable results. The State of Texas will administer the 700 MHz interoperability channels via the Statewide Interoperability Executive Committee (SIEC).

8.2. Tactical Channels

Region 51 will not set aside additional channels for interoperability use within the Region.

8.3. Deployable Systems

Region 51 strongly supports the use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on designated 700 MHz interoperability channels and/of agency specific General Use Channels.

8.4. Monitoring of Calling Channels

Region 51 700 MHz licensees are responsible for any required monitoring of interoperable calling channels. The SIEC will develop operational guidelines for this function.

8.5. Incident Command System Standard

Region 51 supports the NCC recommendations regarding the National Incident Management System (NIMS) and ICS.

9. Future Planning

9.1. Database Maintenance.

Region 51 used the CAPRAD database to start and then re-worked the initial pre-sort to meet the needs of Region 51. Careful consideration was given at the Region's borders to protect the adjacent Regions' interests. Region 51 will continue to utilize CAPRAD to allocate frequencies as applications are received and will update the database as licenses are granted.

9.2. Inter-Regional Dispute Resolution Process.

In the event that a dispute arises between Region 51 and an adjacent Region or Regions, regarding spectrum allocations or implementation, which cannot be resolved within 60 days, the parties to the dispute will request a hearing by the National Regional Planning Oversight Committee. See Section 17 for details and Inter-Regional Dispute Resolution Agreements signed by adjacent Regions 18, 40, 49, and 53.

9.3. Amendment Process.

Amendments to the Region 51 Plan will be made at Region 51 RPC meetings. All amendments will be voted on and passed or rejected by a simple majority vote. The Chairman or his designee will make the appropriate changes to the Plan and notify the adjacent Regions for their concurrence. Once the concurrences are received from the adjacent Regions, the Plan will be certified and filed, by the Chairperson, with the FCC for approval. Electronic filing will be the preferred method.

9.4. Meeting Announcements.

Meeting announcements will be made per the Region 51 Bylaws. Region 51 will utilize Public Notices issued by the FCC, fax notification, email to individual, associations, agencies and vendors, TLETS network, verbal announcements at meetings and / or appropriate publications.

10. Certification

I hereby certify that all planning committee meetings, including subcommittee or executive committee meetings were open to the public. A summary of the deliberations of the Committee pursuant to adopting this Plan can be found in Section 13, Meeting attendance, agendas and other events.

Doug Frankhouser — February 25th, 2008

Chairman, Region 51

11. Bylaws

Bylaws of the Region 51 700 MHz Regional Planning Committee

Adopted
April 4, 2006

11.1. Name and Purpose

The name of this Committee shall be Region 51Regional Planning Committee. Its primary purpose is to foster and promote cooperation, planning, development, and evolution of Regional Plans and the implementation of these plans in the 700 MHz Public Safety Band within Region 51.

11.2. Region 51 Includes the Texas Counties

Angelina, Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Hardin, Harris, Houston, Jasper, Jefferson, Liberty, Matagorda, Montgomery, Nacogdoches, Newton, Orange, Polk, Sabine, San Augustine, San Jacinto, Shelby, Trinity, Tyler, Walker, Waller, Wharton.

11.3. Members

For purposes of this document, the term "member," unless otherwise specified, refers to both voting and non-voting members.

11.4. Numbers, Election and Qualifications

The Regional 51 700 MHz Regional Planning Committee shall have two classes of members, "voting members" and "non-voting members." New members may be added at annual, special, or regular meetings.

11.5. Voting Members

Voting members shall consist of one (1) representative (or alternate) from any single agency engaged in public safety eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103 and are employed or volunteer in public safety in Region 51. Except that a single agency shall

be allowed no more than one vote for each distinct eligibility category (e.g. police, fire, EMS, airport, EOC, highway) within the agency's organization or political jurisdiction. In voting on any issue, the individual must identify himself/herself and the agency and eligibility category in which he or she represents.

11.6. Non-Voting Members

Non-voting members are all other non-public safety personnel interested in furthering the goals of public safety communications.

11.7. Dual Membership

A voting member may not be a voting member of another Region. Since Region 51 has several large cities on or near state borders, some members may want to participate in another committee. It is permissible to be a non-voting member in another Region and be a voting member in Region 51 as long as the Voting Member requirements are met.

11.8. Tenure

In general, each member shall hold MEMBERSHIP from the date of acceptance until resignation or removal.

11.9. Power and Rights

In addition to such powers and rights as are vested in them by law, or these bylaws, the members shall have such other powers and rights as the membership may determine.

11.10. Suspensions and Removal

A representative may be suspended or removed with cause by vote of a majority of members after reasonable notice and opportunity to be heard.

11.10.1. To retain consistent voting rights, a single agency must have attended a minimum of three (3) meetings out of the last six (6) meetings. Region 51 will hold a minimum of one (1) meeting in a calendar year. After the date of approval of this Regional Plan by the Federal Communications Commission, all previous attendees are voting members, with the exception of non-voting commercial members.